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10/576,588

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Kunio Gobara

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EXAMINER

NICKERSON, JEFFREY L

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,588	Applicant(s) GOBARA ET AL.	
	Examiner JEFFREY NICKERSON	Art Unit 2442	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 89-128 is/are pending in the application.
- 4a) Of the above claim(s) 94-112 and 117-125 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 89-93, 113-116 and 126-128 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :

21 April 2006, 29 August 2006, 08 February 2007, 09 April 2010.

DETAILED ACTION

1. This communication is in response to Application No. 10/576,588 filed nationally on 21 April 2006 and internationally on 29 October 2004. The response presented on 24 May 2010, which elects group I (claims 89-93, 113-116, and 125-128), is hereby acknowledged. Claims 89-128 are currently pending; claims 89-93, 113-116, and 125-128 have been examined; claims 94-112 and 117-124 are withdrawn from consideration.

Election/Restrictions

2. Applicant's response, filed 24 May 2010, containing an election without traverse of Group I (claims 89-93, 113-116, 125-128) is hereby acknowledged.

Drawings

3. The replacement drawings, filed on 21 April 2006, providing substitute figures 32-34 are hereby acknowledged and accepted.

Specification

4. The title of the invention is objected to under 37 CFR 1.72(a) for failing to be as specific as possible. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: Bidirectional connection setup between endpoints behind NATs.

Claim Objections

5. Claim 90 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Regarding claim 90, this claim recites transmitting a port detection packet either before or after a particular instantaneous event. Since it will always be either before or after the particular event, this claim fails to limit the claimed subject matter.

35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim Rejections

7. Claims 89-93, 113-116, and 126-128 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 89, this claim recites the limitations "the position of the reference port" in lines 7-8, and "the position of bubble packet transmitting port" in line 15. There is insufficient antecedent basis for these limitations in the claim and correction is therefore required.

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Regarding claim 91, this claim recites "the port number differential" in line 3. There is insufficient antecedent basis for this limitation and correction is therefore required.

Regarding claim 92, this claim recites "the port number differential" in line 4. There is insufficient antecedent basis for this limitation and correction is therefore required.

Regarding claim 93, this claim recites "the port number differential" in line 4. There is insufficient antecedent basis for this limitation and correction is therefore required.

Regarding claim 113, this claim recites the limitations "the position of the reference port" in line 7, and "the position of the bubble packet transmitting port" in lines 15-16. There is insufficient antecedent basis for these limitations in the claim and correction is therefore required.

Regarding claim 114, this claim recites "the port number differential" in line 3. There is insufficient antecedent basis for this limitation and correction is therefore required.

Regarding claim 115, this claim recites "the port number differential" in lines 3-4 and "the communication control unit" in line 4. There is insufficient antecedent basis for these limitations and correction is therefore required.

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Regarding claim 116, this claim recites "the communication control unit" in line 4. There is insufficient antecedent basis for this limitation and correction is therefore required.

Regarding claim 126, this claim recites the limitations "the position of the reference port" in lines 7-8, and "the position of the bubble packet transmitting port" in line 15. There is insufficient antecedent basis for these limitations in the claim and correction is therefore required.

Regarding claim 128, this claim recites "the port position" in line 2, and "the communication control unit" in lines 2-3. There is insufficient antecedent basis for these limitations and correction is therefore required.

Claims 90 and 127 inherit the rejection of the parent claim(s).

35 USC § 101

Regarding claim 126, this claim is directed towards a method for a server in a communication system. While it may initially appear the method is not tied to a particular machine, applicant's specification indicates otherwise. Receiving a port detection packet, being significant to the claimed invention, requires the use of TCP or UDP as per applicant's specification (Applicant submitted specification: pg 14, paragraph 2), resulting in the claim being tied to a particular machine. Therefore the claim is directed towards statutory subject matter.

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 89-93 and 113-116 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Regarding claim 89, this claim is directed to a system comprising a first information processor transmitter/receivers, a second information processor including transmitter/receivers, and a server including transmitter/detectors. Because applicant's specification indicates that the processors, server, and components thereof may be entirely software based (Applicant's specification: pg 78, last paragraph; pg 82, second paragraph; pg 83, last paragraph), no recitation of required structure has been identified within the claim language. Thus, the claim may be directed entirely to software and, as such, the claim is directed to non-statutory subject matter. Explicitly reciting structure that allows the functionally descriptive components to be realized may overcome this rejection. See MPEP 2106.

Regarding claim 113, this claim is directed to a server comprising transmitters/detectors. Because applicant's specification indicates that the server and components thereof may be entirely software based (Applicant's specification: pg 78, last paragraph; pg 83, last paragraph), no recitation of required structure has been

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identified within the claim language. Thus, the claim may be directed entirely to software and, as such, the claim is directed to non-statutory subject matter. Explicitly reciting structure that allows the functionally descriptive components to be realized may overcome this rejection. See MPEP 2106.

Regarding claims 90-93 and 114-116, these claims do not cure the deficiencies of their parent claim(s) and, therefore, inherit the rejections.

Double Patenting

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim Rejections

11. Claims 113-116 and 126-128 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 3-7 of copending Application No. 11/510487 (herein Copending) in view of Takeda et al (US 2004/0139228 A1).

This is a provisional obviousness-type double patenting rejection.

Regarding claim 113, Copending teaches a server for establishing communication of a first information processor via a first communication control unit, comprising:

a reference port detector which receives the reference port detection packet from an information processor for detecting the position of the reference port in accordance with the reference port detection packet (Copending: claim 7, stanza 5);

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a reference port transmitter for transmitting reference port information showing the position of the reference port detected by the reference port detector to the first information processor (Coping: claim 7, stanza 6);

a bubble packet transmitting port detector which receives the port detection packet transmitted from the first information processor for detecting the position of the bubble packet transmitting port in accordance with the port detection packet (Coping: claim 3, stanza 1); and

a bubble packet transmitting port information transmitter for transmitting the bubble packet transmitting port information (Coping: claim 6, stanza 1);

Coping does not teach wherein the server is for controlling communications between a first information processor with a first communication control unit and a second information processor with a second communication control unit;

wherein the reference port packet is transmitted from the second information processor via the second communication control unit, the reference port being a port in the second communication control unit that is a reference for transmission of a bubble packet transmitted by the first information processor leaving transmission record in the communication control unit;

wherein the bubble transmitting port is a port in the first communication control unit which is used in transmission of a bubble packet from the first information processor to the second communication control unit; or

wherein the bubble packet transmitting port information shows the position of the bubble packet transmitting port detected by the bubble packet transmitting port to the second information processor.

Takeda, in a similar field of endeavor, teaches wherein the server is for controlling communications between a first information processor with a first communication control unit and a second information processor with a second communication control unit (Takeda: Figures 16A-16D);

wherein the reference port packet is transmitted from the second information processor via the second communication control unit, the reference port being a port in the second communication control unit that is a reference for transmission of a bubble packet transmitted by the first information processor leaving transmission record in the communication control unit (Takeda: Figure 16A, 1607B; [0192]-[0193] STUN server receives packet from client 630 and identifies NAT type and port/address pair of client 630, which is later used as destination of BOPs from server 629);

wherein the bubble transmitting port is a port in the first communication control unit which is used in transmission of a bubble packet from the first information processor to the second communication control unit (Takeda: Figure 16B, items 1610-1616; [0194] for BOPs); and

wherein the bubble packet transmitting port information shows the position of the bubble packet transmitting port detected by the bubble packet transmitting port to the second information processor (Takeda: Figure 16A, 1610; [0192]-[0193] client 630

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receives NAT address/port pair mapping and NAT type of the server 629 via STUN server).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Takeda for using the NAT breakouts to setup a connection with a second communication device. The teachings of Takeda, when implemented in the Copending system, will allow one of ordinary skill in the art to set up a P2P connection where the devices are behind symmetric NATs. One of ordinary skill in the art would be motivated to utilize the teachings of Takeda in the Copending system in order to allow peers behind symmetric NATs to set up direct connections for streaming data.

Regarding claim 114, the Copending/Takeda system teaches wherein the bubble packet transmitting port detector detects the position of the bubble packet transmitting port using a port number differential of the first communication control unit (Copending: claim 4, stanza 1).

Regarding claim 115, the Copending/Takeda system teaches wherein the server further comprises a port number differential detector which receives a port number differential detection packet transmitted from the first information processor for detecting the port number differential of the first communication control unit in accordance with the port number differential detection packet in order to detect the port number differential of the first communication control unit (Copending: claim 5, stanza 1-2); and

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wherein the bubble packet transmitting port detects the position of the bubble packet transmitting port by using the port number differential detected by the port number differential detector (Copending: claim 5, stanza 3).

Regarding claim 116, this claim contains limitations found within that of claim 115, and the same rationale of rejection is used, where applicable.

Regarding claim 126, this claim contains limitations found within that of claim 113, and the same rationale of rejection is used, where applicable.

Regarding claim 127, this claim contains limitations found within that of claim 113, and the same rationale of rejection is used, where applicable.

Regarding claim 128, the Copending/Takeda system teaches further comprising:

a detecting port detecting step for detecting the port position of the communication control unit through which the port detection packet has passed in accordance with the port detection packet (Copending: claim 7, stanza 5); and

a detecting port information transmitting step for transmitting detecting port information showing the port position detected in the detecting port detecting step (Copending: claim 7, stanza 6).

35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections

13. Claims 89-93, 113-116, and 126-128 are rejected under 35 U.S.C. 102(e) as being anticipated by Takeda et al (US 2004/0139228 A1).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Regarding claim 89, Takeda teaches a communication system (Figure 16A-16D) comprising a first information processor (host/cam 629), a second information processor (client/browser 630), a first communication control unit for controlling the communication of the first information processor (NAT 1602), a second communication control unit for

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controlling the communication of the second information processor (NAT 1604), and a server for establishing communication between the first and second information processors (STUN server 622) (Takeda: Figures 16A-16D); wherein

A first information processor (Figure 16A, item 629) includes:

- a reference port receiver for receiving reference port information showing the position of the reference port, a port in the second communication control unit, that is a reference for transmission of a bubble packet transmitted for leaving transmission record in the first communication unit (Takeda: Figure 16A, 1608; [0193] server 629 receives NAT address/port pair mapping and NAT type of the client 630 via STUN server);

- a bubble packet transmitter for transmitting the bubble packet to the second comm. control unit via the first comm. control unit in accordance with the reference port information (Takeda: Figure 16B, step 1610-1616 breakout packets; [0194]);

- a detection packet transmitter for transmitting a port detection packet to the server in order to detect the position of bubble packet transmitting port, a port of the first communication control unit, which is used in transmission of the bubble packet (Takeda: Figure 16A, step 1607A; [0192]-[0194] server 629 sends packets to determine NAT address/port pair and NAT type, including port delta);

- a reply packet receiver for receiving a reply packet transmitted from the second information processor via the second communication control unit to the bubble packet transmitting port (Takeda: Figure 16C, 1630-1636; [0200]-[0202] for receiving back reply);

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A second information processor (Figure 16A, item 630) includes:

- a reference port detection packet transmitter for transmitting a reference port detection packet for detecting the position of the reference port (Takeda: Figure 16A, 1607B; [0192]-[0193] client 630 sends packets to determine NAT address/port pair mapping and NAT type, including port delta);

- a bubble packet transmitting port information receiver for receiving bubble packet transmitting port information showing the position of the bubble packet transmitting port (Takeda: Figure 16A, 1610; [0192]-[0193] client 630 receives NAT address/port pair mapping and NAT type of the server 629 via STUN server);

- a reply packet transmitter for transmitting a reply packet to the bubble packet transmitting port showing the bubble packet transmitting port information (Takeda: Figure 16C, 1630-1634; [0200]-[0202] for sending breakout reply); and

A server (Figure 15a, item 622) includes:

- a reference port detector which receives the reference port detection packet transmitted from the second information processor for detecting the position of the reference port in accordance with the reference port detection packet (Takeda: Figure 16A, 1607B; [0192]-[0193] STUN server receives packet from client 630 and identifies NAT type and port/address pair of client 630); and

- a reference port transmitter for transmitting reference port information showing the position of the reference port detected by the reference port detector to the first information processor (Takeda: Figure 16A, 1608; [0192]-[0193] STUN server sends server 629 the NAT type and address/port pair of client 630);

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a bubble packet transmitting port detector which receives the port detection packet transmitted from the first information processor for detecting the position of the bubble packet transmitting port in accordance with the port detection packet (Takeda: Figure 16A, 1607A; [0192]-[0193] STUN server receives packet from server 629 and identifies NAT type and port/address pair of server 629);

a bubble packet transmitting port transmitter for transmitting the bubble packet transmitting port information to the second information processor (Takeda: Figure 16A, 1610; [0192]-[0193] STUN server sends client 630 the NAT type and address/port pair of server 629).

Regarding claim 90, Takeda teaches wherein the detection packet transmitter transmits the port detection packet in the first information processor before or after the bubble packet transmitter transmits the bubble packet (Takeda: Figure 16A before Figure 16B; See also [0192]-[0194]).

Regarding claim 91, Takeda teaches wherein the bubble packet transmitting port detector detects the position of the bubble packet transmitting port by using the port number differential of the first communication control unit in the server (Takeda: [0198]-[0200] provides NAT 1602's delta can be used to predict the breakout packet transmitting port).

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Regarding claim 92, Takeda teaches wherein the first information processor further includes:

a port number differential detection packet transmitter for transmitting a port number differential detection packet for detecting the port number differential in the first communication control unit via the first communication control unit (Takeda: Figure 16A, 1607A; [0192] provides the server 629 sends the STUN server its NAT info, including port delta);

and wherein the server further includes:

a port number differential detector which receives the port number differential detection packet for detecting the port number differential of the first communication control unit in accordance with the port number differential detection packet (Takeda: Figure 16A, 1607A; [0192] provides the STUN server receives the server 629 NAT info packet, including port delta); and

wherein the bubble packet transmitting port detector detects the position of the bubble packet transmitting port by using the port number differential detected by the port number differential detector (Takeda: [0192]-[0195] provides the STUN server can predict the break out port).

Regarding claim 93, this claim contains limitations found within that of claim 92 and the same rationale of rejection is used, where applicable.

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Regarding claim 93, this server claim contains limitations found within that of claim 89 and the same rationale of rejection is used, where applicable.

Regarding claim 113, this server claim contains limitations found within that of claim 89, and the same rationale of rejection is used, where applicable.

Regarding claim 114, this server claim contains limitations found within that of claim 91, and the same rationale of rejection is used, where applicable.

Regarding claim 115, this server claim contains limitations found within that of claim 92, and the same rationale of rejection is used, where applicable.

Regarding claim 116, this server claim contains limitations found within that of claim 92, and the same rationale of rejection is used, where applicable.

Regarding claim 126, this server method claim contains limitations found within that of claim 89, and the same rationale of rejection is used, where applicable.

Regarding claim 127, this server method claim contains limitations found within that of claim 89, and the same rationale of rejection is used, where applicable.

Regarding claim 128, Takeda teaches further comprising:

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a detecting port detecting step for detecting the port position of the communication control unit through which the port detection packet has passed in accordance with the port detection packet (Takeda: Figure 16A, 1607B; [0193] provides the STUN server detects the NAT type and address/port information, including delta, of client 630); and

a detecting port information transmitting step for transmitting detecting port information showing the port position detected in the detecting port detecting step (Takeda: Figure 16A, 1608; [0193], STUN server relays the NAT info of client 630 to server 629).

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY NICKERSON whose telephone number is (571)270-3631. The examiner can normally be reached on M-Th, 9:00am - 7:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Philip Lee can be reached on (571)272-3967. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. N./
Examiner, Art Unit 2442

/Philip C Lee/
Acting SPE of Art Unit 2442